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EUPHORBIA (SUBG. AGALOMA) HENRICKSONII, NEW SPECIES FROM THE CHIHUAHUAN DESERT

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The extensive and increasingly accessible arid areas of north-central Mexico have yielded a number of interesting new taxa in our explorations designed to supply the materials for a *Chihuahuan Desert Flora*. The handsome species described here is strikingly distinct from any heretofore described. I am happy to associate with it the name of Dr. James S. Henrickson, California State University—Los Angeles, an able and extraordinarily enthusiastic worker who, with considerable personal sacrifice, has mounted a strenuous collecting campaign and is collaborating in the production of the manual flora.

Euphorbia henricksonii, sp. nov. Herbae annuae erectae 5–35 cm altae; caulis infime 2–5 mm crassis; rami oppositi vel pseudodichotomi pubescentes; laminae foliorum elliptico-oblancoolatae 0.8–2.5 cm longae integrae fere glabrae; petioli 2–7 mm longi; cyathia obpyramidalia vel hemisphaerica 1.7–2.0 mm longa pedunculis 2–3 mm longis; glandes 5 oblongae 0.8–1.0 mm longae; appendices 5 petaloideae orbiculares albae 1.7–3.0 mm longae lataeque; flores staminati 30–35; styli 3 basi bifurcati 1 mm longi; capsulae 2.7–3.0 mm longae; semina 2.4–2.5 mm longa microtuberculata.

Annual taprooted gray-green herbs (5–) 10–25 (–35) cm tall, at base with a single stem 2–5 mm thick and with few to numerous ascending opposite branches or often at some nodes pseudodichotomous (the main axis bearing a terminal cyathium, the subsequent overtopping growth emerging from the axils of the opposite leaves), the internodes sparsely and the nodes more densely pubescent with whitish hairs 0.1–0.2 mm long. Leaves opposite; blades elliptic-oblancoolate, (0.8–) 1.5–2.0 (–2.5) cm long, (3–) 5–7 (–10) mm wide, at apex rounded or bluntly acute, at base cuneate, marginally entire, above glabrous, beneath sparsely pubescent with curved whitish hairs 0.1–0.2 mm long; petioles very slender (2–) 3–5 (–7) mm long, pubescent. Cyathia early in the season terminal in the forks of the pseudodichotomous branches, later more congested in cymose arrangements at the top of the plant; peduncles 2–3 mm long; cyathia obpyramidal to hemispherical, 1.7–2.0 mm long to base of glands, olive-green, sparsely pubescent with whitish spreading hairs 0.2–0.3 mm long; glands 5, oblong, 0.8–1.0 mm long (measured parallel to the cyathium-rim), 0.5 mm wide, olive-yellow, medially with a shallow groove; petaloid appendages 5, white, roughly orbicular, 1.7–3.0 mm long and wide, often a little wider than long, above glabrous, beneath sparsely pubescent with whitish hairs 0.1–0.2 mm long; staminate flowers 30–35; pistillate flower exerted about 3 mm above top of cyathium; styles 3, 1 mm long, each bifurcate to the base, the divisions filiform; capsule 2.7–3.0 mm long, slightly thicker than long, glabrous; seed essentially ecarunculate, ovoid, 2.4–2.5 mm long, 1.8 mm thick (dry) or 2.0 mm thick moistened (measured tangentially), 1.5 (dry) or 1.7 (moistened) mm thick from dorsum to venter; inner coat tough, nearly smooth, dark brown; outer coat of variable thickness, grayish, white, hydrophilic, uniformly and closely tuberculate, the tubercles about 0.1 mm long and thick.

TYPE: Mexico, Chihuahua, Bajío El Gringo, 27°48'N lat, 104°52'W long, 1275 m elev., 29 Sep 1972, *M. C. Johnston, F. Chiang, and T. L. Wendt 9585* (holotype, TEX; isotypes to be distributed, MEXU, RSA, and elsewhere).

The type and only known locality is along the relatively new "highway" traversing eastern Chihuahua from Ojinaga south through the La Perla mining district. Only 26 km from its southern terminus (junction

with the Ciudad Camargo-Jimenez highway) the road crosses the flat bottom of an internal drainage basin, Bajio El Gringo, in which the soil is a finely-textured, slightly alkaline and mineralized adobe and the vegetation consists mainly of large clumps of alkali zacaton, *Sporobolus airoides* (Torr.) Torr. Although I have traversed this region several times, only once, at the end of the summer rainy season of 1972, have I been in this locality when the ground seemed moist enough and the vegetation in active enough growth to warrant stopping for botanical sampling. The flora is of limited interest except for the present species. Several hundred thousand plants of it were seen in a very local area, along both sides of the highway, in ditches that had been gouged by road-machinery scarcely a year and a half before. In contrast to its abundance in this devastated (but only lightly grazed) habitat where competing vegetation was essentially absent, *E. henricksonii* was scarce in the less mechanically disturbed but heavily grazed zacatonal across the fence. We have found it nowhere else in hundreds of miles of seemingly similar alkali flats elsewhere in the desert and consider it rare. Some of our specimens show grazing injury.

A search for a close relative of *E. henricksonii* has been unsuccessful. The species is obviously, on the basis of the obsolete stipules and cythial traits, a member of subgenus *Agaloma* (Raf.) House as broadly defined by recent authors. But there the trail ends. The relatively large pubescent cyathia with showy appendages and obsolete caruncles are reminiscent of the group of species (*E. torrida* L. and relatives) with bicolored bracts, but the phyllotaxy, branching pattern, and seed-coat texture seem to rule out any close relationship. The closest relatives may be some slender herbs including *E. bifurcata* Engelm. and *E. exstipulata* Engelm. but again phyllotaxy, branching pattern, pubescence, and cyathial characters conspire to deprive us of any confidence in these speculations. This taxonomically difficult subgenus fairly cries out for careful monographic work but has been successfully avoided by *Euphorbia* specialists and their students for the last 115 years.

One further datum on the species: Dr. Grady L. Webster (personal communication) reports the leaf-anatomy to be typical of plants with non-Kranz photosynthetic pathways. This is to be expected, as all species of *Agaloma* thus far examined are "non-Kranz".

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